

# **Kropp Exhibit B**

## **[Redacted]**

1 UNITED STATES DISTRICT COURT  
2 WESTERN DISTRICT OF WASHINGTON  
3

4 Kaeli Garner, et al., ) Case No.  
5 Plaintiffs, ) 2:21-cv-00750-RSL  
6 vs. )  
7 Amazon.com, Inc. and Amazon.com )  
8 Services LLC, )  
9 Defendants. )  
10

11 HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

12 DEPOSITION OF  
13 SERGE EGELMAN, Ph.D

14 Volume I  
15 Friday, September 6, 2024  
16 9:02 a.m.  
17  
18  
19  
20  
21  
22

23 Reported by: Michael C. Rowell, California CSR #13494  
24 NCRA Registered Diplomate Reporter  
25 NCRA Certified Realtime Captioner

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Transcript of Serge Engelman, Ph.D.

Conducted on September 6, 2024

23

1 expert on that.

09:22:36

2 Q. And have you ever been prevented from  
3 testifying on surveys or survey methodology in any case?

09:22:37

09:22:42

4 MS. IZZO: Objection to the form.

09:22:48

5 THE WITNESS: Prevented in what sense?

09:22:50

6 BY MR. WAKEFIELD:

09:22:53

7 Q. Based on an objection that you were not  
8 qualified?

09:22:53

09:22:56

9 A. Not based on qualifications, no.

09:22:56

10 Q. What about, have you ever been prevented from  
11 testifying about a survey based on a claim that the  
12 survey methodology was not acceptable?

09:22:58

09:23:00

09:23:04

13 A. The only time that I -- I mean, I guess I'm  
14 interpreting "prevented" as having conflicts of interest  
15 and I have turned down --

09:23:07

09:23:11

09:23:15

16 Q. Oh.

09:23:15

17 A. -- work in that regard, but a court has never  
18 prevented me from testifying in a case, to my knowledge.

09:23:16

09:23:19

19 Q. Yeah, and I should have -- bad question on my  
20 part, but you got to the crux of it, so thank you.

09:23:21

09:23:24

21 So, you -- you've never been excluded from  
22 testifying by a court regarding surveys or survey  
23 methodology, correct?

09:23:32

09:23:35

09:23:38

24 A. Not to my knowledge.

09:23:39

25 Q. Okay. Did you perform any survey for this

09:23:40

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24

1	case?	09:23:45
2	A. No. As I previously stated, I only reviewed	09:23:46
3	documents.	09:23:49
4	Q. Okay. And did you consider doing any survey	09:23:50
5	for this case?	09:23:53
6	A. No. Same answer to your question about	09:23:55
7	forensic analysis, it just didn't seem necessary.	09:23:57
8	Q. Okay.	09:23:59
9	A. And I wasn't asked to.	09:24:00
10	Q. You also were an expert for Plaintiffs in the	09:24:01
11	Vizio versus Consumer -- Vizio, Inc. Consumer Privacy	09:24:13
12	Litigation; is that right?	09:24:19
13	A. Yep.	09:24:20
14	Q. Is that correct? Sorry.	09:24:27
15	A. Oh, yeah, sorry, I -- I already answered.	09:24:28
16	Yes, yes.	09:24:30
17	Q. I'm sorry. My -- I'll turn up my audio.	09:24:31
18	And that was -- that involved testimony about	09:24:42
19	the willingness to pay for privacy; is that right?	09:24:48
20	A. Yeah, I've done a few studies that have been	09:24:52
21	pretty well cited about consumers' willingness to pay --	09:24:58
22	you know, pay for privacy and how consumers value	09:25:02
23	privacy. And so I haven't done these in a while, but	09:25:04
24	there were a few cases, you know, ten years ago -- close	09:25:07
25	to ten years ago, where I had been asked to provide an	09:25:10

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1 BY MR. WAKEFIELD:

09:48:02

2 Q. No, we don't have to do that. You were --  
3 it's your understanding that there were document  
4 requests served. You're not sure if you've seen them,  
5 correct?

09:48:08

09:48:12

09:48:14

09:48:19

6 A. That's correct.

09:48:20

7 Q. As you sit here now, are you aware of any  
8 documents that are responsive to those requests that you  
9 have that were not provided?

09:48:20

09:48:23

09:48:26

10 MS. IZZO: Objection to the form.

09:48:29

11 THE WITNESS: Without knowing what specific  
12 documents we're even talking about, I'm not sure I'm  
13 supposed to answer that question.

09:48:30

09:48:31

09:48:36

14 BY MR. WAKEFIELD:

09:48:37

15 Q. Okay. Well, we can circle back to this later.

09:48:37

16 So, among the documents that you identified in  
17 your report, I did not see -- and I just want to confirm  
18 that you did not consider these things -- the Amazon  
19 conditions of use.

09:48:56

09:49:00

09:49:09

09:49:14

20 Do you recall looking at those for this  
21 engagement?

09:49:15

09:49:16

22 A. I don't remember, but if they're not cited in  
23 my report, that just means I didn't rely on them in  
24 drafting the report.

09:49:17

09:49:18

09:49:20

25 Q. Okay. Did you consider Amazon's conditions of

09:49:21

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1	use?	09:49:25
2	A. I don't remember whether I saw them, so it's	09:49:28
3	hard to say -- you know, I mean, I doubt I -- I doubt I	09:49:33
4	considered them.	09:49:38
5	Q. Okay. Did you consider Amazon's privacy	09:49:39
6	notices?	09:49:43
7	A. I don't believe so.	09:49:45
8	Q. Okay.	09:49:47
9	A. But, again, without going through and seeing	09:49:47
10	what I cited in the report, it's hard to answer that	09:49:49
11	question.	09:49:53
12	Q. Okay. And that -- I don't recall them being	09:49:53
13	cited and looked for them, same is true -- same is true	09:49:57
14	for the other documents, I'm going to ask you about.	09:50:01
15	A. I didn't memorize the Bates numbers, if that's	09:50:04
16	what you're asking.	09:50:07
17	Q. Right. Did you considerate the Alexa Terms of	09:50:07
18	Use?	09:50:12
19	A. Again, I -- you know, we could go through the	09:50:13
20	citations in the report on what documents I actually	09:50:17
21	relied on, what documents were shared with me, and which	09:50:20
22	I considered but did not ultimately rely on in writing	09:50:22
23	the report. It's hard to tell you that off the top of	09:50:25
24	my head.	09:50:31
25	Q. Okay. So as you sit here now, you don't know	09:50:31

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1	if you looked at the Alexa Terms of Use.	09:50:34
2	A. I honestly don't remember.	09:50:36
3	Q. Okay. Do you know if you considered the Alexa	09:50:38
4	Frequently Asked Questions?	09:50:42
5	A. I don't remember.	09:50:43
6	Q. Okay. Do you recall reviewing any privacy	09:50:44
7	reminder emails that Amazon sends out to Alexa users?	09:50:46
8	A. I don't remember.	09:50:51
9	Q. Do you recall reviewing the welcome screen	09:50:57
10	that users see when they're setting up an Alexa device?	09:50:59
11	A. Honestly don't remember.	09:51:04
12	Q. Okay. Did you review any instructional videos	09:51:05
13	or informational videos about Alexa?	09:51:13
14	A. I don't believe any videos were shared with	09:51:16
15	me.	09:51:18
16	Q. Okay. And did you just -- regardless of	09:51:19
17	whether they were shared with you, did you go online and	09:51:24
18	look for such videos?	09:51:26
19	A. I don't believe so. I don't think I would	09:51:28
20	have felt the need to do that.	09:51:29
21	Q. Okay. I believe you testified earlier that	09:51:32
22	you -- you have offered some opinions about how	09:51:49
23	customers would -- about customer preferences concerning	09:51:52
24	voice recordings; is that right?	09:52:00
25	A. Yep.	09:52:02

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1	Q. And I believe you answered this, but just to	10:22:54
2	double-check, did you run any of these -- these checks	10:22:58
3	on any Alexa applications?	10:23:01
4	A. I was not asked to.	10:23:04
5	Q. And you did not, correct?	10:23:06
6	A. And I did not.	10:23:08
7	Q. Okay. Before reviewing documents to prepare	10:23:09
8	the report in this case, did you have an understanding	10:23:20
9	of how Alexa functioned?	10:23:24
10	A. Yes.	10:23:28
11	Q. Yes. And you had been involved in the -- the	10:23:29
12	privacy attitudes survey, which we'll get to later.	10:23:31
13	Is that part of what formed the basis of your	10:23:40
14	understanding of how Alexa works?	10:23:42
15	MS. IZZO: Objection to the form.	10:23:45
16	THE WITNESS: I -- in terms of what	10:23:46
17	specifically formed the basis, I mean, the underlying	10:23:48
18	technology is somewhat well-known.	10:23:51
19	I mean, this is a common application of	10:23:54
20	machine learning, is, you know, doing speech	10:23:56
21	recognition, and -- and so I don't believe, you know,	10:24:00
22	in -- in describing, you know, how Alexa works, I don't	10:24:03
23	think I needed to rely on any documents. But since	10:24:06
24	those documents were presented to me, I certainly cited,	10:24:08
25	you know, the ones that explained how the system works.	10:24:11



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1	But, yes, I had existing knowledge of how that	10:24:14
2	system works.	10:24:17
3	BY MR. WAKEFIELD:	10:24:17
4	Q. So, even before getting documents in this	10:24:17
5	case, you -- you had an understanding of -- of how Alexa	10:24:20
6	works; is that right?	10:24:24
7	A. That's correct.	10:24:25
8	Q. Okay. Had you also heard -- you mentioned	10:24:26
9	media reporting about technology.	10:24:29
10	Had you come across media reporting about	10:24:33
11	Alexa before your engagement in this case?	10:24:38
12	A. I can't name specific articles, but almost	10:24:43
13	certainly. There's been a lot of popular reporting over	10:24:47
14	the past, I guess, decade about these types of	10:24:49
15	technologies.	10:24:52
16	Q. Right.	10:24:54
17	And before your engagement in this case, had	10:24:55
18	you ever read any of Amazon's disclosures concerning	10:24:59
19	Alexa's function or privacy, such as terms and	10:25:05
20	conditions or privacy notices?	10:25:08
21	A. I honestly don't --	10:25:10
22	MS. IZZO: Objection to the form.	10:25:13
23	THE WITNESS: I honestly don't remember.	10:25:14
24	BY MR. WAKEFIELD:	10:25:17
25	Q. Okay. Do you have any Alexa-enabled devices	10:25:18

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1 BY MR. WAKEFIELD: 10:40:08

2 Q. Okay. But assuming that a public disclosure 10:40:08  
3 does accurately disclose what a company is doing, isn't 10:40:11  
4 reading it one of the ways you could learn about 10:40:17  
5 privacy? 10:40:20

6 A. That -- that's a load-bearing assumption 10:40:21  
7 there. I mean, it's well documented in, I don't know, 10:40:25  
8 probably 40, 50 years of research literature that most 10:40:28  
9 consumer privacy notices are written at a level that's 10:40:32  
10 way beyond consumer understanding. 10:40:35

11 Most consumers don't know how to find these 10:40:38  
12 documents. They don't read them because they're lengthy 10:40:41  
13 and -- and often ambiguous, and because of the 10:40:45  
14 ambiguity, even if they do read and understand them, 10:40:49  
15 they usually have a very poor description of the actual 10:40:51  
16 privacy practices. 10:40:53

17 So, there has been a trend of, you know, 10:40:55  
18 conglomerates having privacy, you know, policies that 10:40:58  
19 encompass all of their services, so that when you read 10:41:02  
20 the privacy policy, there's really no indication of what 10:41:05  
21 data is collected when you use one specific service 10:41:08  
22 versus another. 10:41:11

23 Q. Okay. Are you aware that Amazon provides FAQs 10:41:12  
24 specifically about Alexa and Echo devices? 10:41:17

25 A. I assume that they do. In terms of, you know, 10:41:22

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1	specifics, I haven't read the specifics, but yeah, I	10:41:27
2	assume that they have some documentation about that.	10:41:30
3	Q. Okay. And it wasn't part of your -- the scope	10:41:31
4	of your work here to review those disclosures and opine	10:41:34
5	about whether they were ambiguous or clear to users,	10:41:37
6	right?	10:41:42
7	A. No, it was not.	10:41:43
8	Q. Okay. You mentioned media reporting about	10:41:44
9	things. That's -- that's another way that people can	10:41:49
10	learn about privacy issues or controls for their	10:41:52
11	devices, right?	10:41:56
12	A. Yes --	10:41:57
13	MS. IZZO: Objection to the form.	10:41:58
14	THE WITNESS: Yes, that's correct.	10:42:00
15	BY MR. WAKEFIELD:	10:42:00
16	Q. Okay. What about blog postings? Is that	10:42:02
17	another way, or would you include blogs as part of	10:42:05
18	media?	10:42:08
19	MS. IZZO: Objection to form.	10:42:09
20	THE WITNESS: I mean, in terms of where the	10:42:12
21	average consumer gets their information, I -- I can't	10:42:13
22	really opine on that.	10:42:16
23	BY MR. WAKEFIELD:	10:42:18
24	Q. Okay. Consumers can get information from	10:42:23
25	social media, such as YouTube videos, right?	10:42:25

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1	your testimony, are you aware of what steps Amazon took	11:21:19
2	to delete -- to address that concern?	11:21:23
3	MS. IZZO: Objection to the form.	11:21:29
4	THE WITNESS: As I document in my report,	11:21:30
5	there's discussion about changing policies throughout	11:21:32
6	the class period, but my understanding is, you know,	11:21:34
7	through the end of the class period, most of this was	11:21:38
8	not actually implemented yet.	11:21:42
9	BY MR. WAKEFIELD:	11:21:43
10	Q. What is your understanding of what the end of	11:21:43
11	the class period is?	11:21:45
12	A. I would need to go back to the report. I'm	11:21:47
13	pretty sure it was a defined period, as is usually the	11:21:49
14	case in these.	11:21:52
15	Q. Okay.	11:21:55
16	A. Do you want me to go back to the report to	11:22:03
17	answer that or...	11:22:05
18	Q. We don't have to right now.	11:22:06
19	So, let's look at some of the conclusions of	11:22:17
20	the Privacy Attitudes of Smart Speaker Users from 2019,	11:22:19
21	Exhibit 4.	11:22:26
22	At page 251, there are some bullet or dash	11:22:26
23	findings. Do you see those?	11:22:39
24	A. Yep.	11:22:45
25	Q. It begins with, "Our contributions include	11:22:46

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1	findings that" -- do you see that?	11:22:54
2	A. Yes, sorry. I already said yes.	11:22:57
3	Q. Okay. And one of the conclusions, it's the	11:22:59
4	third bullet point, is, "On the whole, data currently	11:23:03
5	stored with voice assistance is not considered	11:23:07
6	sensitive," right?	11:23:10
7	A. Yeah, that's what it says.	11:23:18
8	Q. Okay. And that was a conclusion of the study,	11:23:21
9	right?	11:23:22
10	A. Yeah, I'd presume, given that that's listed	11:23:26
11	here as -- as one of the contributions, yes.	11:23:28
12	Q. Okay.	11:23:28
13	A. But that's on the whole. I mean, there's	11:23:35
14	certainly, you know -- yes, if 90 percent of your	11:23:36
15	recordings are recorded, you know, intentionally, then	11:23:39
16	you could say, on the whole, you know, the recordings	11:23:43
17	were record -- recorded intentionally, and that ignores	11:23:45
18	the fact that 10 percent were not.	11:23:48
19	Q. Okay. Well, we'll get to the -- the issue of	11:23:53
20	accidental false wake recordings in a moment.	11:23:59
21	The final bullet on page 251, though, was	11:24:12
22	the -- "The majority embraced proposals for alternative	11:24:17
23	privacy features, stating they would adopt automatic	11:24:22
24	deletion of their recordings."	11:24:26
25	Do you see that?	11:24:29



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1	breakdown between mistaken detections of the wake word	11:37:00
2	versus a user saying the wake word when they didn't want	11:37:03
3	the device to wake up, correct?	11:37:07
4	A. We -- I -- I would need to read the whole	11:37:12
5	paper, but I don't remember whether we reported on that.	11:37:15
6	Q. Okay. These participants, after doing this	11:37:18
7	study, certainly were aware that accidental activations	11:37:29
8	occurred and -- and that recordings were kept, right?	11:37:36
9	A. Yeah, after participating in the study, we --	11:37:42
10	you know, we at first asked their perceptions of what	11:37:46
11	happens to the recordings, and then we informed them	11:37:48
12	afterwards that, yes, by default, the recordings were	11:37:50
13	kept indefinitely, even the false activation ones; and	11:37:53
14	we asked their opinions about that.	11:37:57
15	Q. Okay. Let's talk about some of the opinions	11:38:01
16	and perception questions you asked.	11:38:09
17	So, in 6.1, you asked about user perceptions	11:38:11
18	of retention. And you found that -- under the question,	11:38:17
19	"After you ask the assistant a question or say a	11:38:29
20	command, what do you believe happens to the audio of	11:38:32
21	your interaction?"	11:38:35
22	That was a question, correct?	11:38:37
23	A. I'm trying to find it.	11:38:40
24	Q. It's under 6.1 on page 255.	11:38:41
25	A. Yep, yes.	11:38:50

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1 Q. And almost half of respondents, 48.3 percent,  
2 correctly answered that recordings are kept  
3 indefinitely, right?

4 A. And half said that they didn't believe -- and  
5 half did not know that. Yes, that's correct.

6 Q. Right. Of the -- of the responses you got,  
7 the one that had the highest percentage was people  
8 answering that recordings are kept indefinitely, right?  
9 That was more than the people who felt they were only  
10 saved temporarily or that weren't sure, correct?

11 It's a dumb question. 48 percent is more than  
12 41 percent, right?

13 MS. IZZO: Where are you seeing 41 percent?  
14 Sorry, I'm not seeing that.

15 THE WITNESS: That's complicated, because then  
16 there's a question of statistical significance. So,  
17 when you're randomly sampling from the population, you  
18 know, just comparing percentages like that isn't  
19 meaningful.

20 You would need to do statistical tests to say  
21 whether or not that 48 percent is, you know -- among the  
22 general population is likely to really outnumber the  
23 others.

24 I would have to read more to see how we asked  
25 the question and whether we actually looked for

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1 statistical significance there. 11:40:09

2 Q. Okay. But in any event, 48.3 answered that 11:40:10  
3 recordings are kept indefinitely, and 41.4 answered that 11:40:15  
4 audio is saved temporarily, right? 11:40:20

5 A. That's what we reported in the paper. 11:40:25

6 Q. All right. And that -- that was correct at 11:40:27  
7 the time? You were correctly stating the results of 11:40:33  
8 your survey, right? 11:40:35

9 A. I was correct -- yes, we were correctly 11:40:36  
10 stating the results of the survey. How those numbers 11:40:38  
11 generalize to the overall population is -- is a separate 11:40:42  
12 matter. 11:40:46

13 Q. Okay. Now, in the question, "After you asked 11:40:46  
14 the assistant a question or say a command, what do you 11:41:02  
15 believe happens to the audio," the survey participants 11:41:08  
16 were choosing from among specified answers, right, at 11:41:12  
17 page -- you can see the answers in the questionnaire at 11:41:18  
18 page 268, if you want to take a look. 11:41:21

19 A. Yeah. 11:41:23

20 Q. Right-hand -- it's on the right column, about 11:41:28  
21 halfway down the page. 11:41:31

22 A. Yes, there were four options. 11:41:38

23 Q. Yeah, and one was -- so the answers they could 11:41:40  
24 choose from is: It doesn't get saved at all; it gets 11:41:43  
25 saved temporarily; it gets saved indefinitely; or, I 11:41:47



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1 48 percent understood that they would be kept 11:49:17  
2 indefinitely, whereas 52 percent did not have that same 11:49:22  
3 understanding. 11:49:26

4 Q. Okay. Only 4.3 percent thought that 11:49:26  
5 recordings were not saved, right? 11:49:30

6 A. Yeah, that's included in that 52 percent that 11:49:31  
7 did not understand the recordings would be kept 11:49:34  
8 indefinitely. 11:49:36

9 Q. Okay. In Section 6.2 about Current Data 11:49:37  
10 Retention Policies, you begin that "Participants shared 11:49:48  
11 a range of opinions about the voice assistants' current 11:49:56  
12 retention policies"; is that right? 11:50:00

13 A. That's what it says there. 11:50:02

14 Q. Right, so opinions among survey respondents 11:50:05  
15 were not uniform, correct? 11:50:08

16 A. Uh-huh. I mean, it says there's a range of 11:50:09  
17 opinions, and I talked about before, you know, in terms 11:50:13  
18 of the raw data, there's some select quotes here, and 11:50:15  
19 but the responses are coded. And so we -- you know, we 11:50:18  
20 describe the broad categories of the responses and how 11:50:23  
21 they fell into those categories. 11:50:26

22 Q. Right. Some users preferred that their 11:50:28  
23 recordings be kept; isn't that right? 11:50:33

24 A. There are a range of preferences, yes. 11:50:37

25 Q. Okay. So, in the second paragraph of the -- 11:50:41

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1 of Section 6.2, the paper states that, "Some are more 11:50:58  
2 accepting of the data retention because they saw its 11:51:03  
3 benefits and found them worthwhile," right? 11:51:06

4 A. Yeah. As I said, there's -- there are a range 11:51:15  
5 of privacy preferences. 11:51:18

6 Q. Right. And one -- one user -- one participant 11:51:19  
7 said, "I think they are using the recordings to create a 11:51:23  
8 voice profile so Alexa gets better at understanding what 11:51:26  
9 I say, so I will keep all recordings." 11:51:30

10 Do you see that? 11:51:35

11 A. Yeah, we -- we established that a small number 11:51:36  
12 of participants, you know, were okay with it, but 11:51:39  
13 predominantly, that wasn't the case. 11:51:43

14 Q. Well, we'll get to that. 11:51:45

15 Another user stated, "I think having 11:51:49  
16 recordings stored may help with the technology, and we 11:51:53  
17 all have to do our part to advance it," right? 11:51:56

18 A. That's what it says. 11:51:59

19 Q. Right. And so, those were folks who not only 11:52:00  
20 knew about the retention of recordings but knew they 11:52:07  
21 were being used to improve Alexa? 11:52:09

22 A. Those are -- 11:52:15

23 MS. IZZO: Objection to the form. 11:52:15

24 THE WITNESS: Yeah, those are quotes from 2 11:52:17  
25 out of 116 participants, yes. 11:52:19

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1 disclosed," because, obviously, doing a study in 2019,  
2 you know, a large proportion of people who own these  
3 devices were not aware of that.

4 BY MR. WAKEFIELD:

5 Q. The largest single answer in that survey was  
6 that they thought they were kept indefinitely. Others  
7 didn't know -- others thought that recordings were made  
8 and kept temporarily. More than 80 percent knew that  
9 the recordings were being made and kept for some amount  
10 of time --

11 A. Where is -- where is that?

12 Q. It's in the survey that we just spent hours  
13 on, but in any event, as you sit here now, you're not  
14 aware of what disclosures Amazon made in 2014, 2015, or  
15 2016, about keeping voice recordings; is that right?

16 MS. IZZO: Objection to form.

17 THE WITNESS: At the beginning of this, we  
18 already established that I did not look at, you know,  
19 Amazon's terms and conditions or privacy policies, which  
20 most consumers don't either. So...

21 BY MR. WAKEFIELD:

22 Q. Are you aware that the Washington Post  
23 reported about Echo when it first was coming out, that  
24 it's a product that records snippets of what you say in  
25 the privacy of your home and stores it on Amazon's

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1	[REDACTED]	14:30:57
2	[REDACTED]	14:31:01
3	[REDACTED]	14:31:04
4	[REDACTED]	14:31:07
5	[REDACTED]	14:31:15
6	[REDACTED]	14:31:20
7	[REDACTED]	14:31:24
8	[REDACTED]	14:31:27
9	[REDACTED]	14:31:29
10	[REDACTED]	14:31:31
11	[REDACTED]	14:31:34
12	[REDACTED]	14:31:39
13	[REDACTED]	14:31:42
14	[REDACTED]	14:31:48
15	[REDACTED]	14:31:50
16	[REDACTED]	14:31:51
17	[REDACTED]	14:31:51
18	[REDACTED]	14:31:52
19	[REDACTED]	14:31:55
20	[REDACTED]	14:31:58
21	[REDACTED]	14:32:02
22	[REDACTED]	14:32:04
23	[REDACTED]	14:32:08
24	[REDACTED]	14:32:12
25	///	14:32:15

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1	[REDACTED]	14:32:15
2	[REDACTED]	14:32:17
3	[REDACTED]	14:32:27
4	[REDACTED]	14:32:32
5	[REDACTED]	14:32:35
6	[REDACTED]	14:32:36
7	[REDACTED]	14:32:41
8	[REDACTED]	14:32:44
9	[REDACTED]	14:32:47
10	[REDACTED]	14:32:51
11	[REDACTED]	14:32:51
12	[REDACTED]	14:32:53
13	Q. Right. In other reports you've done, do you	14:32:55
14	put in pincites to the specific parts of documents that	14:32:59
15	support your views?	14:33:02
16	MS. IZZO: Objection to form.	14:33:04
17	THE WITNESS: Sometimes, sometimes not. I'm	14:33:04
18	not a lawyer. I -- usually in -- in the science	14:33:06
19	literature, pincites are not a thing that anyone usually	14:33:10
20	uses -- well, in computer science, anyway, pincites are	14:33:13
21	absolutely not a thing that appear in research papers.	14:33:19
22	I've only started using pincites in this type	14:33:23
23	of work. I don't have a copy of the blue book. I'm not	14:33:26
24	a lawyer. So, yes, my usage of pincites is	14:33:28
25	inconsistent.	14:33:32

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1	BY MR. WAKEFIELD:	14:33:33
2	Q. All right.	14:33:34
3	MS. IZZO: We have been going for almost	14:33:34
4	another hour. We'd like to take a break, but --	14:33:36
5	MR. WAKEFIELD: This is a good time. I was	14:33:38
6	going to move on to another document.	14:33:40
7	MS. IZZO: Okay. We can go off the record.	14:33:41
8	THE VIDEOGRAPHER: All right. Going off	14:33:45
9	record at 2:33.	14:33:47
10	(Whereupon, a recess was taken.)	14:33:53
11	THE VIDEOGRAPHER: We are back on record at	14:44:55
12	2:44.	14:45:02
13	BY MR. WAKEFIELD:	14:45:03
14	[REDACTED]	14:45:04
15	[REDACTED]	14:45:07
16	[REDACTED]	14:45:12
17	[REDACTED]	14:45:25
18	[REDACTED]	14:45:28
19	[REDACTED]	14:45:32
20	[REDACTED]	14:45:36
21	[REDACTED]	14:45:37
22	[REDACTED]	14:45:40
23	[REDACTED]	14:45:46
24	[REDACTED]	14:45:56
25	So, where does this document indicate that	14:46:01

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1	[REDACTED]	14:46:08
2	[REDACTED]	14:46:17
3	[REDACTED]	14:46:19
4	[REDACTED]	14:46:27
5	[REDACTED]	14:46:34
6	[REDACTED]	14:46:39
7	[REDACTED]	14:46:43
8	[REDACTED]	14:46:46
9	[REDACTED]	14:46:50
10	[REDACTED]	14:46:56
11	[REDACTED]	14:46:56
12	[REDACTED]	14:47:00
13	[REDACTED]	14:47:00
14	[REDACTED]	14:47:03
15	[REDACTED]	14:47:06
16	[REDACTED]	14:47:10
17	[REDACTED]	14:47:15
18	[REDACTED]	14:47:17
19	[REDACTED]	14:47:18
20	[REDACTED]	14:47:33
21	[REDACTED]	14:47:36
22	[REDACTED]	14:47:39
23	[REDACTED]	14:47:42
24	[REDACTED]	14:47:44
25	[REDACTED]	14:47:48

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1	[REDACTED]	14:47:52
2	[REDACTED]	14:47:55
3	[REDACTED]	14:47:58
4	[REDACTED]	14:48:00
5	[REDACTED]	14:48:01
6	[REDACTED]	14:48:06
7	[REDACTED]	14:48:11
8	[REDACTED]	14:48:13
9	[REDACTED]	14:48:14
10	[REDACTED]	14:48:19
11	[REDACTED]	14:48:21
12	[REDACTED]	14:48:26
13	[REDACTED]	14:48:30
14	[REDACTED]	14:48:34
15	[REDACTED]	14:48:37
16	[REDACTED]	14:48:46
17	[REDACTED]	14:48:55
18	[REDACTED]	14:48:58
19	[REDACTED]	14:49:04
20	[REDACTED]	14:49:08
21	[REDACTED]	14:49:10
22	[REDACTED]	14:49:13
23	[REDACTED]	14:49:15
24	[REDACTED]	14:49:18
25	[REDACTED]	14:49:25



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199

1	[REDACTED]	14:49:29
2	[REDACTED]	14:49:33
3	[REDACTED]	14:49:33
4	[REDACTED]	14:49:36
5	[REDACTED]	14:49:37
6	[REDACTED]	14:49:38
7	[REDACTED]	14:49:42
8	[REDACTED]	14:49:46
9	[REDACTED]	14:49:52
10	[REDACTED]	14:49:56
11	[REDACTED]	14:49:59
12	[REDACTED]	14:50:02
13	[REDACTED]	14:50:05
14	[REDACTED]	14:50:08
15	[REDACTED]	14:50:15
16	[REDACTED]	14:50:21
17	[REDACTED]	14:50:23
18	[REDACTED]	14:50:25
19	[REDACTED]	14:50:30
20	[REDACTED]	14:50:32
21	[REDACTED]	14:50:35
22	[REDACTED]	14:50:36
23	[REDACTED]	14:50:37
24	[REDACTED]	14:50:39
25	///	14:50:39

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1	[REDACTED]	14:50:39
2	[REDACTED]	14:50:40
3	[REDACTED]	14:50:45
4	[REDACTED]	14:50:48
5	[REDACTED]	14:50:51
6	[REDACTED]	14:50:53
7	[REDACTED]	14:50:54
8	[REDACTED]	14:50:56
9	[REDACTED]	14:50:58
10	[REDACTED]	14:51:01
11	[REDACTED]	14:51:05
12	[REDACTED]	14:51:08
13	[REDACTED]	14:51:11
14	BY MR. WAKEFIELD:	14:51:12
15	Q. Right. And we discussed earlier that doing an	14:51:12
16	analysis of potential risks and discussing how to	14:51:14
17	mitigate that risk is a good privacy practice, correct?	14:51:19
18	MS. IZZO: Objection to form.	14:51:24
19	THE WITNESS: Generally speaking, yes.	14:51:25
20	BY MR. WAKEFIELD:	14:51:27
21	Q. Yeah. One of the documents that you cite is	14:51:27
22	the document -- in footnote 16, is document ending in	14:51:38
23	008, which is Exhibit 5, which we've already marked.	14:51:45
24	A. Let me open that up. Sorry. Exhibit 5.	14:51:55
25	Exhibit 5 is Tab 3.	14:52:16

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1	thing.	15:11:26
2	[REDACTED]	15:11:29
3	[REDACTED]	15:11:32
4	[REDACTED]	15:11:34
5	[REDACTED]	15:11:38
6	[REDACTED]	15:11:40
7	[REDACTED]	15:11:42
8	[REDACTED]	15:11:43
9	[REDACTED]	15:11:44
10	[REDACTED]	15:11:45
11	[REDACTED]	15:11:48
12	[REDACTED]	15:11:51
13	[REDACTED]	15:11:54
14	[REDACTED]	15:11:57
15	[REDACTED]	15:12:03
16	[REDACTED]	15:12:06
17	[REDACTED]	15:12:08
18	[REDACTED]	15:12:09
19	[REDACTED]	15:12:12
20	[REDACTED]	15:12:15
21	[REDACTED]	15:12:19
22	[REDACTED]	15:12:22
23	[REDACTED]	15:12:24
24	[REDACTED]	15:12:27
25	[REDACTED]	15:12:28

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1	BY MR. WAKEFIELD:	15:12:34
2	Q. Can the volume at which statements are made	15:12:34
3	around the device affect whether a false wake is more or	15:12:37
4	less likely?	15:12:41
5	MS. IZZO: Objection to form.	15:12:42
6	THE WITNESS: I don't know the answer to that.	15:12:44
7	BY MR. WAKEFIELD:	15:12:46
8	Q. Can the accent or diction of the speaker	15:12:46
9	affect the likelihood of a false wake?	15:12:49
10	MS. IZZO: Objection to form.	15:12:51
11	THE WITNESS: Probably.	15:12:52
12	BY MR. WAKEFIELD:	15:12:53
13	Q. Can the presence of background noise in the	15:12:53
14	home or -- or other environment affect the likelihood of	15:12:56
15	a false wake?	15:13:00
16	MS. IZZO: Objection to form.	15:13:02
17	THE WITNESS: Probably.	15:13:04
18	BY MR. WAKEFIELD:	15:13:05
19	Q. Can the acoustics of the room itself where the	15:13:07
20	device is located affect the probability of a false	15:13:10
21	wake?	15:13:13
22	A. Probably.	15:13:16
23	Q. Can the proximity of a person to the device	15:13:17
24	when speaking affect the proximity -- the probability of	15:13:21
25	a false wake?	15:13:23

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1	MS. IZZO: Objection to form.	15:13:27
2	THE WITNESS: Yeah, probably.	15:13:28
3	BY MR. WAKEFIELD:	15:13:29
4	Q. Okay. Are you aware of what disclosures	15:13:30
5	Amazon has made about false wakes?	15:13:40
6	A. No, I -- we already discussed this. I am not	15:13:45
7	aware of what disclosures Amazon has made.	15:13:47
8	Q. Would it surprise you to know that Amazon has	15:13:50
9	told people that they can review recordings and delete	15:13:56
10	them if they want, including recordings from false	15:14:00
11	wakes?	15:14:04
12	MS. IZZO: Objection to form.	15:14:04
13	THE WITNESS: I mean, we already have	15:14:05
14	established that that feature has existed, but that most	15:14:07
15	consumers -- you know, many consumers were not aware of	15:14:09
16	that feature and haven't used it. But I think that's	15:14:11
17	also somewhat orthogonal to this as well, because it's	15:14:14
18	not just that there's a false wake that's occurring.	15:14:18
19	It's the things that Amazon does with the data	15:14:21
20	after the fact that it's determined that the face --	15:14:23
21	false wake had occurred.	15:14:27
22	BY MR. WAKEFIELD:	15:14:28
23	Q. Okay. What is your understanding of what	15:14:29
24	Amazon does when cloud-side verification is unable to	15:14:34
25	confirm the presence of the wake word?	15:14:39

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1	[REDACTED]	15:22:28
2	[REDACTED]	15:22:29
3	[REDACTED]	15:22:36
4	[REDACTED]	15:22:38
5	[REDACTED]	15:22:42
6	[REDACTED]	15:22:46
7	[REDACTED]	15:22:50
8	[REDACTED]	15:22:54
9	[REDACTED]	15:22:56
10	[REDACTED]	15:22:58
11	[REDACTED]	15:23:01
12	[REDACTED]	15:23:04
13	[REDACTED]	15:23:08
14	[REDACTED]	15:23:12
15	[REDACTED]	15:23:13
16	[REDACTED]	15:23:14
17	[REDACTED]	15:23:20
18	[REDACTED]	15:23:23
19	[REDACTED]	15:23:24
20	[REDACTED]	15:23:27
21	[REDACTED]	15:23:32
22	[REDACTED]	15:23:37
23	[REDACTED]	15:23:42
24	[REDACTED]	15:23:42
25	[REDACTED]	15:23:43

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1	[REDACTED]	15:23:47
2	[REDACTED]	15:23:52
3	[REDACTED]	15:23:54
4	[REDACTED]	15:23:58
5	[REDACTED]	15:24:01
6	[REDACTED]	15:24:06
7	[REDACTED]	15:24:08
8	[REDACTED]	15:24:12
9	[REDACTED]	15:24:16
10	[REDACTED]	15:24:18
11	[REDACTED]	15:24:20
12	[REDACTED]	15:24:22
13	[REDACTED]	15:24:23
14	[REDACTED]	15:24:25
15	[REDACTED]	15:24:28
16	[REDACTED]	15:24:31
17	[REDACTED]	15:24:35
18	[REDACTED]	15:24:40
19	[REDACTED]	15:24:45
20	[REDACTED]	15:24:47
21	[REDACTED]	15:24:51
22	[REDACTED]	15:24:54
23	[REDACTED]	15:24:58
24	[REDACTED]	15:25:00
25	[REDACTED]	15:25:03

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1	[REDACTED]	15:25:05
2	[REDACTED]	15:25:09
3	MS. IZZO: Objection to form.	15:25:14
4	BY MR. WAKEFIELD:	15:25:15
5	Q. Let me -- do you know what follow-up mode is?	15:25:16
6	A. Yes.	15:25:18
7	Q. What is it?	15:25:18
8	A. It's after the user has interacted with the	15:25:19
9	device, and then they can -- it's sort of a, you know,	15:25:22
10	request and response, and you can interact with the	15:25:25
11	device without having to say the wake word every time,	15:25:27
12	and I guess that's -- to answer a previous question,	15:25:30
13	that's, you know, one technology where it's, you know,	15:25:33
14	wake word free, where we're using wake word free	15:25:36
15	dialogue.	15:25:42
16	[REDACTED]	15:25:42
17	[REDACTED]	15:25:47
18	[REDACTED]	15:25:55
19	[REDACTED]	15:26:00
20	[REDACTED]	15:26:04
21	[REDACTED]	15:26:07
22	[REDACTED]	15:26:11
23	[REDACTED]	15:26:14
24	[REDACTED]	15:26:17
25	[REDACTED]	15:26:20



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1	[REDACTED]	15:26:24
2	[REDACTED]	15:26:27
3	[REDACTED]	15:26:28
4	[REDACTED]	15:26:31
5	[REDACTED]	15:26:33
6	[REDACTED]	15:26:36
7	[REDACTED]	15:26:40
8	[REDACTED]	15:26:42
9	[REDACTED]	15:26:46
10	[REDACTED]	15:26:49
11	[REDACTED]	15:26:50
12	[REDACTED]	15:26:53
13	[REDACTED]	15:26:58
14	[REDACTED]	15:27:04
15	[REDACTED]	15:27:07
16	MS. IZZO: Objection to form. He just stated	15:27:08
17	his understanding of the document.	15:27:11
18	[REDACTED]	15:27:13
19	[REDACTED]	15:27:14
20	[REDACTED]	15:27:18
21	[REDACTED]	15:27:21
22	[REDACTED]	15:27:24
23	[REDACTED]	15:27:28
24	[REDACTED]	15:27:30
25	[REDACTED]	15:27:33

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1	BY MR. WAKEFIELD:	15:28:48
2	Q. Okay, Dr. Egelman, let me know when you have	15:28:50
3	Exhibit 8.	15:28:51
4	A. Yep.	15:28:52
5	Q. Okay. Do you have it?	15:28:53
6	A. Oh, sorry, I already said yes. Sorry.	15:29:26
7	Q. Sorry. So, you cite Exhibit 8 at the top of	15:29:28
8	paragraph 23.	15:29:36
9	A. Let me open it up.	15:29:42
10	[REDACTED]	15:29:43
11	[REDACTED]	15:29:47
12	[REDACTED]	15:29:50
13	A. Sorry. I'm looking at my report.	15:29:59
14	Sorry, where in my report are you looking?	15:30:04
15	Q. Top of paragraph 23.	15:30:07
16	A. Yep.	15:30:22
17	Q. Okay. In that cite, you cite one document for	15:30:22
18	that point, paragraph -- footnote 28, which is	15:30:29
19	Exhibit 8.	15:30:33
20	A. Uh-huh.	15:30:34
21	[REDACTED]	15:30:34
22	[REDACTED]	15:30:43
23	[REDACTED]	15:30:51
24	[REDACTED]	15:30:52
25	[REDACTED]	15:30:54

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1	[REDACTED]	15:30:59
2	[REDACTED]	15:31:05
3	[REDACTED]	15:31:09
4	[REDACTED]	15:31:12
5	[REDACTED]	15:31:13
6	[REDACTED]	15:31:19
7	[REDACTED]	15:31:22
8	[REDACTED]	15:31:27
9	[REDACTED]	15:31:29
10	[REDACTED]	15:31:31
11	[REDACTED]	15:31:36
12	[REDACTED]	15:31:38
13	[REDACTED]	15:31:43
14	[REDACTED]	15:31:46
15	[REDACTED]	15:31:50
16	[REDACTED]	15:31:55
17	[REDACTED]	15:31:58
18	[REDACTED]	15:32:03
19	[REDACTED]	15:32:04
20	[REDACTED]	15:32:06
21	[REDACTED]	15:32:08
22	[REDACTED]	15:32:11
23	[REDACTED]	15:32:14
24	[REDACTED]	15:32:18
25	[REDACTED]	15:32:20

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1	[REDACTED]	15:32:22
2	[REDACTED]	15:32:28
3	[REDACTED]	15:32:29
4	[REDACTED]	15:32:32
5	[REDACTED]	15:32:33
6	[REDACTED]	15:32:37
7	[REDACTED]	15:32:41
8	[REDACTED]	15:32:42
9	[REDACTED]	15:32:44
10	[REDACTED]	15:32:48
11	Q. Right. Do you think it's inappropriate for	15:32:52
12	Amazon to receive and retain recordings that contain the	15:32:57
13	wake word?	15:33:04
14	A. Oh --	15:33:06
15	MS. IZZO: Objection to form.	15:33:07
16	THE WITNESS: I mean, if it's just the wake	15:33:08
17	word that was intended for the device, then probably	15:33:10
18	not.	15:33:13
19	BY MR. WAKEFIELD:	15:33:13
20	Q. Okay. Now, if someone says the wake word and	15:33:14
21	then decides not to give a command because they change	15:33:28
22	their mind or something, or someone else starts talking,	15:33:30
23	then you could end up with just some background noise,	15:33:34
24	right?	15:33:36
25	MS. IZZO: Objection to form.	15:33:38

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Transcript of Serge Engelman, Ph.D.

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1	THE WITNESS: Yeah, that -- that's true, yeah.	15:33:40
2	BY MR. WAKEFIELD:	15:33:43
3	Q. Okay. And you also would have -- there	15:33:45
4	wouldn't be an expressed intent in that interaction, if	15:33:47
5	no one gave a command, right?	15:33:52
6	MS. IZZO: Objection to form.	15:33:54
7	THE WITNESS: I mean, it depends on the	15:33:55
8	context, I think.	15:33:57
9	BY MR. WAKEFIELD:	15:33:58
10	[REDACTED]	15:34:03
11	[REDACTED]	15:34:09
12	[REDACTED]	15:34:11
13	[REDACTED]	15:34:12
14	[REDACTED]	15:34:12
15	THE REPORTER: Can we back up and ask that	15:34:12
16	again?	15:34:12
17	MR. WAKEFIELD: Yeah.	15:34:20
18	BY MR. WAKEFIELD:	15:34:20
19	[REDACTED]	15:34:20
20	[REDACTED]	15:34:24
21	[REDACTED]	15:34:29
22	[REDACTED]	15:34:29
23	[REDACTED]	15:34:32
24	[REDACTED]	15:34:33
25	[REDACTED]	15:35:19

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1 Usually, the audio itself is transformed, I mean, with 16:23:59  
2 like speech recognition, it usually involves applying a 16:24:03  
3 Fourier transform to the data and comparing it to the 16:24:08  
4 statistical models of an individual's voice. 16:24:13

5 There are many different methods, but in terms 16:24:17  
6 of like the specific algorithms that are used, that's -- 16:24:19  
7 that's outside my area of expertise. 16:24:23

8 Q. Okay. Do you know whether in developing 16:24:24  
9 systems to recognize a speaker, a person speaking, there 16:24:26  
10 is often human annotation to teach the machine learning? 16:24:31

11 MS. IZZO: Objection to form. 16:24:39

12 THE WITNESS: I think it really depends on, 16:24:39  
13 you know, the -- the system being used. I mean, is 16:24:42  
14 there a specific thing that you're asking about? 16:24:45

15 BY MR. WAKEFIELD: 16:24:47

16 Q. Yeah, well, I'm -- in other words, how -- how 16:24:48  
17 does a machine learning system get a ground truth about 16:24:50  
18 whether a voice is the same voice from a recording as 16:24:53  
19 another voice in a different recording? 16:24:59

20 A. Oh, labeled training sets. 16:25:03

21 Q. All right. In that case, there's probably 16:25:05  
22 someone listening to them and labeling them, right? 16:25:09

23 A. I mean, that's one way. Again, like I already 16:25:12  
24 said, I'm not an expert on this topic specifically. I'm 16:25:15  
25 sure that there are other techniques that are used. I 16:25:18

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Transcript of Serge Engelman, Ph.D.

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1 am actually not sure what the state-of-the-art is, but, 16:25:20  
2 you know, I know enough to be able to say that voice 16:25:23  
3 recordings are personally identifiable data and that 16:25:26  
4 technology exists that's in widespread deployment that 16:25:29  
5 allows speakers to be identified based on, you know, one 16:25:31  
6 or two sense -- one or two seconds of audio. 16:25:37

7 Q. Okay. Are you aware -- let me ask a different 16:25:39  
8 question. 16:25:46

9 Would it surprise you to know that the 16:25:46  
10 Plaintiffs in this case misidentified recordings of 16:25:49  
11 their own voices? 16:25:51

12 MS. IZZO: Objection to form. 16:25:54

13 THE WITNESS: I mean, that wouldn't really 16:25:56  
14 surprise me necessarily, no. 16:25:58

15 BY MR. WAKEFIELD: 16:26:00

16 Q. Okay. Do you have any understanding of the 16:26:00  
17 degree of accuracy of systems that try to match voice 16:26:06  
18 recordings to identify a speaker? 16:26:11

19 A. No, I already said, like, I'm not sure of the 16:26:14  
20 state-of-the-art. That's outside of my expertise, but 16:26:17  
21 certainly, these systems are accurate enough that, you 16:26:19  
22 know, varying commercial deployment, you know. 16:26:22

23 When I call my bank, I know that they use this 16:26:25  
24 when I talk to them on the phone. Many banks are doing 16:26:28  
25 this. There are lots of applications for this 16:26:31

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1	technology. It's pretty widespread.	16:26:33
2	Q. Okay. So, your bank has some technology to	16:26:35
3	recognize you by your voice?	16:26:39
4	A. Yes.	16:26:42
5	MS. IZZO: Objection to form.	16:26:42
6	BY MR. WAKEFIELD:	16:26:43
7	Q. Is that right?	16:26:44
8	A. Yes.	16:26:45
9	Q. And did you have to provide voice data to your	16:26:45
10	bank so that they had a sample?	16:26:52
11	MS. IZZO: Objection to form.	16:26:57
12	THE WITNESS: Whether I specifically went	16:26:59
13	through some training exercise with them to give them	16:27:01
14	lots of samples of my voice? No, I didn't do that. I	16:27:03
15	believe that they train these models based on your calls	16:27:07
16	to the bank over time.	16:27:10
17	But, certainly, yes, they're trained -- once	16:27:11
18	they authenticate me, they probably use that data to	16:27:14
19	update the models. But, again, like, the specifics of	16:27:19
20	the commercial applications of this are outside the	16:27:20
21	scope of the report and my expertise.	16:27:24
22	BY MR. WAKEFIELD:	16:27:26
23	Q. Okay. In order to determine if a recording --	16:27:27
24	let me ask a different question.	16:27:33
25	In order to try to determine if a recording is	16:27:35



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1 from a specific person using an automated system, you 16:27:40  
2 would need a sample of that person's voice identified as 16:27:49  
3 that person, right? 16:27:53

4 MS. IZZO: Objection to form. 16:27:56

5 THE WITNESS: I mean, my understanding, yes, 16:27:58  
6 but, again, as I said, like, I'm not an expert in that 16:28:01  
7 technology specifically. 16:28:05

8 BY MR. WAKEFIELD: 16:28:08

9 Q. Do you have any basis to believe that Amazon 16:28:13  
10 has technology to definitively identify speakers based 16:28:15  
11 only on Alexa recordings? 16:28:20

12 A. I don't know about based on Alexa recordings, 16:28:25  
13 but I know that AWS offers services to do this. I mean, 16:28:27  
14 Amazon has the technology to do this. 16:28:32

15 Q. All right. What would they -- in order to do 16:28:35  
16 that with Alexa recordings, wouldn't you need a sample 16:28:37  
17 identified by the person that you're trying to confirm a 16:28:43  
18 match to to see -- in other words, if you want to know 16:28:46  
19 if this recording that you have is of Dr. Egelman, 16:28:50  
20 wouldn't you need to know what Dr. Egelman sounds like? 16:28:55

21 A. Yes, presumably, yeah. 16:29:01

22 Q. Yeah, right. And I meant -- let me ask 16:29:03  
23 another question. 16:29:06

24 So, is DNA evidence personally identifiable 16:29:07  
25 information? 16:29:09

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1	Okay. Do you have Exhibit 10 in front of you?	16:37:17
2	A. I do.	16:37:19
3	[REDACTED]	16:37:20
4	[REDACTED]	16:37:30
5	[REDACTED]	16:37:36
6	[REDACTED]	16:37:38
7	[REDACTED]	16:37:42
8	[REDACTED]	16:37:45
9	[REDACTED]	16:37:49
10	[REDACTED]	16:37:59
11	[REDACTED]	16:38:05
12	MS. IZZO: Objection to form.	16:38:08
13	BY MR. WAKEFIELD:	16:38:09
14	Q. It's just acknowledging that it is	16:38:09
15	identifiable?	16:38:11
16	MS. IZZO: Same objection.	16:38:12
17	THE WITNESS: I -- I believe Amazon does	16:38:15
18	actually have a way. They do have enough data at their	16:38:17
19	fingertips that they could identify people if they so	16:38:20
20	chose.	16:38:23
21	BY MR. WAKEFIELD:	16:38:25
22	Q. You think Amazon could identify every person	16:38:28
23	in an Alexa voice recording?	16:38:31
24	A. I didn't state that. I said that they could	16:38:34
25	identify people if they so chose. Whether they're	16:38:36

## HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

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1 successful in identifying everyone, probably doubtful, 16:38:40  
2 but Amazon also sits on a lot of data. 16:38:43

3 Q. Okay. What sort of data are you aware of that 16:38:51  
4 Amazon could -- could use to identify a specific person 16:38:53  
5 in a voice recording? 16:38:57

6 MS. IZZO: Objection to form. 16:39:00

7 THE WITNESS: Amazon hosts most -- a large 16:39:03  
8 portion of the web, right, across its many different 16:39:06  
9 services. Like, a lot of the web runs across AWS. 16:39:09

10 Amazon is sitting on a lot of data, not just 16:39:14  
11 what was collected through Alexa, and thus, they do have 16:39:17  
12 information at their fingertips that they could use to 16:39:21  
13 identify a large number of people based on their voices, 16:39:23  
14 if they so chose. 16:39:26

15 BY MR. WAKEFIELD: 16:39:29

16 Q. Okay. So, you're referring to all of the data 16:39:29  
17 that's hosted in AWS? 16:39:31

18 A. Yeah. You just -- the question, as I 16:39:34  
19 understand it, is whether they have the capability to 16:39:36  
20 identify large amounts of people, and, yes, as a 16:39:39  
21 company, Amazon absolutely has a lot of data that they 16:39:42  
22 could use to do that. 16:39:45

23 Q. Okay. Setting aside third-party data that's 16:39:46  
24 hosted on Amazon.com, which presumably they have agreed 16:39:53  
25 not to use and cannot use for such purposes -- 16:39:58

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Transcript of Serge Engelman, Ph.D.

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1	A. No true Scots.	16:40:02
2	Q. Then what other -- what other Amazon data do	16:40:05
3	you think Amazon could use to try to identify speakers	16:40:12
4	in Alexa voice recordings?	16:40:16
5	A. I mean, again, that's kind of a load-bearing	16:40:19
6	caveat there. I mean, Amazon does sit on a lot of data.	16:40:23
7	A lot of it is from AWS, which, yes, contractually, they	16:40:26
8	are not supposed to be, you know, poking around with	16:40:30
9	that third-party data because it belongs to other	16:40:31
10	people. But, you know, the potential -- the capability	16:40:34
11	is there, if they so chose to do that.	16:40:37
12	Q. Right. It -- it might -- it might be illegal	16:40:40
13	to do that, right?	16:40:46
14	MS. IZZO: Objection to form.	16:40:47
15	THE WITNESS: Yeah. I mean, we're not	16:40:49
16	talking -- again -- well, I'm not making a legal	16:40:51
17	conclusion here. The question was whether they have the	16:40:55
18	capability, and yeah, I think they certainly have the	16:40:57
19	capability.	16:40:59
20	BY MR. WAKEFIELD:	16:41:05
21	Q. So, for example, if they host your bank's	16:41:05
22	systems with your -- where your bank has your voice	16:41:07
23	recording data, one way would be that they would break	16:41:11
24	into your bank's voice profile and try to match it to	16:41:15
25	voice recordings?	16:41:20

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1	[REDACTED]	16:44:08
2	[REDACTED]	16:44:10
3	[REDACTED]	16:44:13
4	[REDACTED]	16:44:16
5	[REDACTED]	16:44:37
6	[REDACTED]	16:44:57
7	[REDACTED]	16:45:05
8	[REDACTED]	16:45:13
9	[REDACTED]	16:45:15
10	[REDACTED]	16:45:27
11	[REDACTED]	16:45:33
12	[REDACTED]	16:45:36
13	[REDACTED]	16:45:37
14	[REDACTED]	16:45:38
15	[REDACTED]	16:45:38
16	[REDACTED]	16:45:46
17	[REDACTED]	16:45:49
18	[REDACTED]	16:45:56
19	[REDACTED]	16:46:00
20	[REDACTED]	16:46:04
21	[REDACTED]	16:46:07
22	[REDACTED]	16:46:10
23	[REDACTED]	16:46:12
24	[REDACTED]	16:46:15
25	[REDACTED]	16:46:20

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1	[REDACTED]	16:46:27
2	[REDACTED]	16:46:34
3	[REDACTED]	16:46:42
4	[REDACTED]	16:46:46
5	[REDACTED]	16:46:48
6	[REDACTED]	16:46:50
7	Q. Okay. And we -- in the next paragraph, in 27,	16:46:53
8	you say that collecting customer data to train and	16:47:08
9	improve machine learning models is an industry standard	16:47:10
10	practice, right?	16:47:13
11	A. Yep.	16:47:16
12	Q. But it's incumbent on the collector to ensure	16:47:16
13	customers are informed and consent?	16:47:21
14	A. Yep.	16:47:22
15	Q. Right?	16:47:23
16	A. Yeah. That -- yeah, that's what it says.	16:47:25
17	Q. Yeah, and then you say that Amazon failed to	16:47:28
18	do that here.	16:47:31
19	A. Yeah.	16:47:35
20	Q. And we've already established that you did not	16:47:38
21	review any of Amazon's terms or disclosures or videos or	16:47:40
22	FAQs, right?	16:47:46
23	A. We established also that consumers have, you	16:47:49
24	know, expectations about what's happening to their -- to	16:47:53
25	their data, and that, you know, Amazon was concerned	16:47:55

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1 broadly, that's what Amazon failed to do. 16:50:12

2 Are you -- are you confining that to the use 16:50:16  
3 of recordings associated with suspected false wakes? 16:50:20

4 MS. IZZO: Objection to form. 16:50:26

5 THE WITNESS: Yeah, I don't -- wait, I don't 16:50:27  
6 understand what the question is. 16:50:29

7 BY MR. WAKEFIELD: 16:50:30

8 Q. Right. So, I was talking about different ways 16:50:31  
9 that people can consent to the use of recordings to -- 16:50:33  
10 for machine learning, for Alexa -- to improve Alexa. 16:50:42

11 MS. IZZO: And I just want to be specific 16:50:49  
12 about "people." Sorry. You keep referring to people, 16:50:51  
13 but we're looking at two sentences which talk about two 16:50:53  
14 different groups of people. So I just want to make sure 16:50:56  
15 that we're all following. 16:50:58

16 MR. WAKEFIELD: Yeah, well, so, okay. I am 16:51:00  
17 specifically talking about paragraph 27, starting at 16:51:03  
18 page 11, where you said, "While collecting customer data 16:51:07  
19 to train and improve machine learning models is an 16:51:14  
20 industry standard practice, it's incumbent on the 16:51:16  
21 collector to ensure customers are informed and consent 16:51:20  
22 to the collection of the data and how it may be used." 16:51:24

23 And then you go on to say Amazon failed to do 16:51:29  
24 that here. 16:51:31

25 A. Yeah. 16:51:34



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1	Q. Is that opinion, that Amazon failed to do that	16:51:34
2	here, about false wakes?	16:51:38
3	A. I think in general, the fact that, you know,	16:51:42
4	data is being reused for secondary purposes was not	16:51:45
5	apparent to many consumers.	16:51:49
6	Q. So, that would include just any use of any	16:51:59
7	intentional Alexa command to improve the Alexa service?	16:52:03
8	A. Beyond --	16:52:08
9	MS. IZZO: Form.	16:52:09
10	THE WITNESS: Yeah, beyond fulfilling the	16:52:09
11	immediate query, sure.	16:52:12
12	BY MR. WAKEFIELD:	16:52:14
13	Q. Okay. And is it your opinion that Amazon	16:52:15
14	failed to disclose that and failed to get consent to	16:52:18
15	that?	16:52:20
16	A. I mean, based on the internal discussions	16:52:22
17	among Amazon employees, they seem to also agree with	16:52:25
18	that assessment.	16:52:28
19	Q. So, what is the basis for your assertion that	16:52:38
20	individuals who did not register Alexa devices or	16:52:44
21	accounts could not consent?	16:52:48
22	A. Because they wouldn't have access to the, you	16:52:53
23	know, various settings, for instance, to opt out. So,	16:52:55
24	when Amazon did, you know, add a feature to, you know,	16:53:01
25	say, opt out of this, there's no way that bystanders who	16:53:03



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1 don't have access to those settings would have been able 16:53:06  
2 to use that feature. And, you know, again, like I cite 16:53:09  
3 I don't know how many papers, but this is a -- this is 16:53:13  
4 somewhat well established, that, you know, consumers 16:53:17  
5 care about this and don't believe that they're -- 16:53:20  
6 they're being adequately informed about the uses of 16:53:23  
7 their data. 16:53:25

8 Q. Okay. So, are you aware that the -- the 16:53:28  
9 proposed classes in this case are, one, people who 16:53:31  
10 registered devices, and then, two, people who lived with 16:53:37  
11 someone but didn't -- who had -- who had registered an 16:53:42  
12 Alexa device -- 16:53:48

13 A. Yeah. 16:53:48

14 Q. -- but who did not themselves register an 16:53:48  
15 Alexa device. 16:53:53

16 A. I was not -- 16:53:54

17 Q. You were not aware of that? Okay. 16:53:55

18 A. I was not aware of that. 16:53:56

19 Q. So, excluding bystanders -- 16:53:58

20 A. Yeah. 16:53:59

21 Q. -- and now talking about people who live in a 16:54:00  
22 home or apartment or residence with someone who has 16:54:02  
23 registered an Alexa device, is it your opinion that 16:54:09  
24 those people could not consent? 16:54:10

25 A. I mean, yeah, I thought we already established 16:54:18

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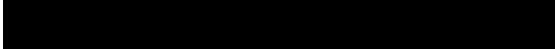
1	could control settings, opt in and out, review	16:56:51
2	recordings, delete them, all of that, right?	16:56:57
3	MS. IZZO: Objection to form.	16:57:00
4	THE WITNESS: Yeah, I mean, but that's --	16:57:02
5	that's somewhat posthoc, right? If they're reviewing	16:57:06
6	the recordings, if they have the ability to review the	16:57:09
7	recordings, that presupposes that those recordings	16:57:12
8	exist.	16:57:14
9	BY MR. WAKEFIELD:	16:57:18
10	Q. In a household, a person could also authorize	16:57:27
11	someone else in their home to register a device for	16:57:30
12	them, right?	16:57:33
13	MS. IZZO: Objection to form.	16:57:35
14	THE WITNESS: Yeah, regardless of who	16:57:38
15	registers the device, I mean, that doesn't really change	16:57:40
16	the data collection, you know, practice, the behaviors	16:57:42
17	of that device.	16:57:46
18	BY MR. WAKEFIELD:	16:57:47
19	[REDACTED]	16:57:56
20	[REDACTED]	16:58:08
21	[REDACTED]	16:58:11
22	[REDACTED]	16:58:17
23	[REDACTED]	16:58:21
24	[REDACTED]	16:58:25
25	[REDACTED]	16:58:31

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1		16:58:32
2	Q. Right. Improving products improves their	16:58:33
3	value for the customers too, right?	16:58:37
4	MS. IZZO: Objection to form.	16:58:40
5	THE WITNESS: And I already said this is the,	16:58:41
6	you know, "the ends justify the means" argument, right?	16:58:46
7	BY MR. WAKEFIELD:	16:58:48
8	Q. I'm not making an argument. I'm asking, as a	16:58:48
9	factual matter, doesn't it benefit customers to have	16:58:51
10	improved products?	16:58:54
11	MS. IZZO: Objection to form, asked and	16:58:57
12	answered.	16:58:58
13	THE WITNESS: Improving -- yes, improving	16:58:59
14	products benefits customers in certain cases, yeah.	16:59:02
15	BY MR. WAKEFIELD:	16:59:06
16	Q. Okay. Let me jump to Tab 88 and mark that	16:59:12
17	next.	16:59:22
18	(Whereupon, Exhibit 11 was marked for	16:59:23
19	identification.)	16:59:24
20	TECHNICIAN NEWELL: Stand by.	16:59:26
21	Okay. Exhibit 11, Tab 88 is now in the file	16:59:38
22	share.	16:59:42
23	BY MR. WAKEFIELD:	16:59:49
24	Q. Dr. Egelman, let me know when you have	16:59:50
25	Exhibit 11 in front of you.	16:59:51